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ABSTRACT

The cumulative adverse impact of residential white flight from large central cities on the residual population has led policy makers to be wary of instituting programs which will further exacerbate the process. Recent policy debates have evolved over the question of whether white city-to-suburb movement is affected more significantly by racially-motivated causes on the one hand, or by the general economic and ecological conditions in the city on the other. The present study assesses a number of previously suggested racial and nonracial factors for 1965 as "pushes" and "pulls" to 70 white city-to-suburb movement streams in 39 standard metropolitan areas. Utilizing a two-stage model of mobility, this analysis suggests that most factors, both racial and nonracial affect white flight less through the decision to move, than through the choice of destination. Fiscal and ecological features of the metropolitan area are demonstrated to be just as important as racial factors in the explanation. Finally, a path model is constructed which shows that the greater level of flight exhibited in Southern cities is only marginally explained by racial causes. (Author/AM)

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CENTRAL CITY WHITE FLIGHT: RACIAL AND NONRACIAL CAUSES

William H. Frey

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Central City White Flight: Racial and Nonracial Causes

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ABSTRACT

Although residential "white flight" from large central cities is hardly a new phenomenon, its cumulative adverse impact on the residual population has led policy makers to be wary of instituting programs which will further exacerbate the process. Recent policy debates have evolved over the question whether white city-to-suburb movement is affected more significantly by racially-motivated causes on the one hand, or by the general economic and ecological conditions in the city on the other. The present study assesses a number of previously suggested racial and non-racial factors as "pushes" and "pulls" for 1965 to 70 white city-to-suburb movement streams in thirty-nine large SMSAs. Utilizing a two-stage model of mobility, this analysis suggests that most factors, both racial and nonracial, affect white flight less through the decision to move, than through the choice of destination. Fiscal and ecological features of the metropolitan area are demonstrated to be just as important as racial factors in the explanation. Finally, a path model is constructed which shows that the greater level of flight exhibited in Southern cities is only marginally explained by racial causes.

Central City White Flight: Racial and Nonracial Causes

The residential "flight" of whites from large central cities to their expansive suburbs and the adverse consequences this movement has had on remaining city residents are not particularly new phenomena. Shortly after white suburbanization peaks in the 1950s, Grodzins in a perspective essay noted:

> Almost nothing is being done today to meet what is likely to be the nation's most pressing social problem tomorrow. The problem can be simply stated in all its bleakness: many central cities of the great metropolitan areas of the United States are fast becoming lower class, largely Negro slums (Grodzins, 1958, p. 1).

Since that time, evidence has tended to confirm that the cumulative redistribution of white residences and jobs out of the urban center has led to a lower quality of life for the minorities and poor left stranded in the core (Kain, 1968; National Advisory Commission on Civil Disorders, 1968) as well as to fiscal crises for many central city governments (Advisory Commission on Intergovernmental Relations, 1973). Although various public policy measures have effected modest gains in improving the living conditions of the urban poor (deLeeuw et al., 1976), one can hardly be complacent when 1973 figures show that 64 percent of the metropolitan poor live in central cities, and 50 percent of these live in low income neighborhoods (U.S. Bureau of the Census, 1975). According to many experts, the fiscal crisis in city governments has not yet reached its peak, particularly in older metropolitan areas (Pettengill and Uppal, 1974; Peterson, 1976). At present, the residents of financially strapped cities are faced with prospects of increased taxes,

lower levels of service and for those dependent on local government jobs, higher unemployment. Recent trends toward diminished federal contributions to the city's plight portend a bleak future.

In light of this situation, it becomes apparent that central cities can ill afford to sustain further reductions in their nonpoor, nonminority populations. It is small wonder then that various policy proposals aimed at lowering unemployment or achieving greater racial equality are carefully evaluated according to their potential impact on further white flight. The ghetto enrichment strategy spawned by the Kerner Commission report has been held up to such scrutiny (Kain, 1969; Harrison, 1974). More recently, the implications of enforced school desegregation policies upon white flight have become the focus of debate (Coleman et al., 1975; Farley, 1976a; Orfield, 1976; Pettigrew and Green, 1976a, 1976b; Coleman, 1976).

In such debates, conventional wisdoms often get substituted for empirical evidence. One such conventional wisdom suggests that current white flight is still influenced by racial motivations (assuming, of course, that it had been during the 1950s) and that policies which would increase either the numbers or level of integration of blacks within the city would lead to a further loss of whites. Another explanation suggests that present flight to the suburbs is merely a continuation of the metropolitan community's natural expansion process which includes dispersion of both jobs and housing. Given the relatively static boundaries of the central city, movements of nonpoor individuals toward greater housing and job opportunities in the suburbs have led to even further deterioration of the economic and environmental conditions

within the city political unit. Each explanation implies different "flight" consequences for proposed policies, leaving both proponents and critics of any policy free to embrace the explanation which best supports their cause. Unfortunately for urban analysts, no empirical study has yet been undertaken which disentangles competing racial and nonracial explanations of white city-to-suburb mobility using recent data. That is the purpose of the present investigation.

1. WHITE FLIGHT: BACKGROUND AND HYPOTHESES

White Flight: Postwar and Present

A reasonable case can be made that the suburban flight of whites which occurred immediately after World War II resulted in part from racial motivations. There is general agreement that the unprecedented levels of postwar suburbanization were mitigated by a unique set of economic and demographic circumstances which produced a heightened demand for housing, matched later by increased rates of suburban construction (Duncan, 1962; Glenn, 1973). However, available evidence also suggests that racially motivated movement patterns and discriminatory housing practices, when superimposed upon market forces of the period, served to exacerbate the selective mobility of whites to the suburbs. A facilitating factor in this regard was the substantial increase in black migration from the rural South to Northern cities which took place in the 1940s (Hamilton, 1964). The large numbers of black in-migrants exerted even greater pressures on an already tight wartime housing

market, and their relegation to exclusively black neighborhoods contributed to further piling up in these areas.

After the war, the increased availability of suburban housing permitted an outward movement of central city whites as well as an expansion of blacks into previously white neighborhoods. Linkages between these two processes for cities which had undergone both black increases and white decreases in population are suggested in the Taeuber and Taeuber (1965) study. Their data document a fairly systematic racial transition process wherein affected city neighborhoods experienced both black population increases and white decreases. Newly invaded neighborhoods tended to be middle class in character, and the black "invaders" were often higher in status than resident whites. An analysis of vacancy patterns and white resident characteristics suggests that the suburbanward movement of high status whites came disproportionately from invaded and partially black neighborhoods rather than all white areas of the city.

Although these data do not indicate the existence of a widespread racially induced flight consistent with common conceptions of neighborhood tipping or "blockbusting," a subtle racial effect is suggested. The high level of mobility on the part of whites could be attributed largely to a pent up housing demand rather than a response to black in-migration. However, the overwhelming selection of all white destination neighborhoods--located primarily in the suburbs--by these movers can be viewed as a discriminatory process. As the Kerner Commission put it:

> "Massive transition" requires no panic or flight by the original white residents of a neighborhood into which Negroes begin moving. All it requires is the failure or refusal of

> other whites to fill the vacancies resulting from normal turnover . . . (National Advisory Commission on Civil Disorders, 1968, p. 245).

Since both market and nonmarket discriminatory practices effectively guaranteed all-white neighborhoods in the suburbs to movers, an undeterminable portion of white postwar suburbanization can be attributed to racial motivations on the part of individual movers and to more pervasive discriminatory housing policies on the part of both public and private agencies.[1]

Despite the continuing persistence of neighborhood residential segregation and increases in the proportion of city blacks through the 1960s (Sørensen et al., 1975; Schnore et al., 1976), it is not likely that recent white out-movement from large central cities is as heavily influenced by interracial housing dynamics as had been the case in the 1950s. To begin with, the unique housing market situation which facilitated widespread racial transition during the postwar period has not been repeated in large central cities. Second, the nature of black migration has changed dramatically. Since 1960, black-recipient cities have experienced lower levels of black net in-movement, greater diversity of origins among in-migrants, and higher status selectivity among in-migrants from all origins than in the 1940s and 1950s (Farley, 1976b; Manpower Report of the President, 1974). These trends tend to slow the pace of neighborhood transition and decrease the status disparity between black and white city residents. Third, there has been a change in white attitudes toward racial residential integration. According to recent surveys, a majority of whites now endorse such integration at least in principle (Pettigrew, 1973; Hermalin and Farley, 1973). Finally, as a

result of continuing suburbanization over the past three decades, a major portion of metropolitan whites have already been relocated into highly segregated suburban communities leaving behind those who either prefer a city residence or are unable to afford the move.[2] It is conceivable that attempts to desegregate central city schools could provide a motivation for suburban flight similar to that generated by the neighborhood transition process. However, the overall impact of such movement is likely to be minimal if only because of the limited subpopulation affected (i.e., city whites with school age children in public schools). Furthermore, school induced flight, unlike the widespread residentially induced flight of the 1950s, is not tied to community housing market mechanisms which influence population redistribution patterns.[3]

A strong argument can be made that current white flight is largely a response to deteriorating economic and environmental conditions within central cities. These deteriorating conditions reflect an increased isolation of the political central city from activities and resources in the larger metropolitan community; the cumulative result of population, housing and employment expansion outside the city limits into a fragmented suburban political structure (Zimmer, 1975). In the process, the central city has effectively been stripped of the metropolitan area's high income population and a good deal of its industrial tax base. At the same time, it is obliged to provide a host of nonresidential services which benefit workers, shoppers and visitors who reside in the suburbs, and to cater as well to the special needs of a large poor and disadvantaged population within its own boundaries (Hirsch, 1971). In contrast, suburban jurisdictions are primarily dispensers of residential services

(most notably, education), serve the needs of a more middle class population, and can therefore impose less severe demands on their taxpayers, who are generally better off on an income per capita basis than city taxpayers. Intergovernmental transfers have served to moderate city-suburb disparities to some extent but far from completely (Advisory Commission on Intergovernmental Relations, 1973, Appendix B). Moreover, almost every attempt at city annexation or government reorganization within affected metropolitan areas has met strong opposition from suburban communities (Zimmer, 1976).

The implications of this city-suburb disparity for residential movement are clear. City residents of the most severely affected areas are being asked to pay higher taxes both on a per capita basis and as a share of total income than are their contemporaries in the suburbs. They are not likely to receive proportionately better services in return, and, in fact, can be virtually assured of lower quality schools and higher rates of crime than suburban residents (Petersen, 1976). It is likely, therefore, that the increased out-of-pocket costs and deteriorating environmental conditions associated with residence in financially plagued cities will provide additional impetus for suburbanward movement. Support for this assertion is provided in a comparative study of white population distributions for eighty-seven large metropolitan areas.[4] Furthermore, city-suburb disparities besides those connected to the natural expansion of the metropolitan community have effected an aggregate relocation of employment opportunities out of the central core (Noll, 1970). In the period from 1960-70, decentralization has been particularly selective of blue collar employment (Kasarda, 1976).

Since proximity to workplace has been shown to bear some relation to residential location (Kain, 1965; Guest, 1976), the recent redistribution of employment opportunities may well induce further residential redistribution of blue collar whites who previously lived and worked in the central city.[5]

Hypotheses

This investigation attempts to clarify the relative roles of various racial and nonracial factors in the current suburbanward movement of central city whites in order to provide useful information for the evaluation of proposed public policies. In particular, we are interested in juxtaposing racially induced flight effects with those that are associated with overall central city decline. Findings in this study are based on a comparative analysis of appropriate movement streams for thirty-nine large metropolitan areas reported in the 1970 U.S. Census.[6] For the purpose of analysis, we are guided by two underlying hypotheses.

First, we expect that current white flight from the central city can be explained to a greater extent by nonracial economic and ecological factors than by those directly related to race. As discussed above, significant changes since the immediate postwar years in 1) the housing market; 2) the nature of black migration; 3) white attitudes toward racial integration; and 4) the characteristics of central city residents, point to a diminishing racial effect on white suburbanward movement levels. More immediate causes of flight from today's central cities are apt to be linked to the deteriorating economic and environmental conditions in the urban core and to the broader ecological development of the

metropolitan area. This position is supported by aggregate post-1960 statistics which indicate a continuing suburbanization of central city whites despite a sharp curtailment of black in-migration from 1950 levels (Long, 1975; Taeuber, 1972).

Our second hypothesis concerns the term "flight" as a characterization of the movement. Previous studies of residential mobility indicate that there are a variety of factors responsible for precipitating a local move, and further, that these factors tend to coincide with major life cycle stages of the household (Rossi, 1955; Butler et al., 1969; Goodman, 1974). It is therefore reasonable to conclude that any selective white movement out of the increasingly black central cities takes place as part of the destination selection process after the decision to move is made. This view of white residential movement has been given support in the neighborhood racial transition literature discussed above, and it can hardly be characterized as flight. Hence, we anticipate that racial influences on city-to-suburb movement, to the extent they exist, will operate primarily in the destination selection process.

The test of the first hypothesis will provide an overall evaluation of racial versus nonracial effects on white city-to-suburb movement levels, whereas the test of the second will give insights into how these effects are transmitted. A confirmation of the second hypothesis and not the first would imply that the implementation of racially sensitive policies will not evoke an immediate suburbanward flight but that the mobility consequences for such policies would be more gradual and long term. A confirmation of both hypotheses should serve to moderate those arguments which suggest that racial influences significantly raise current levels of white city-to-suburb movement.

2. THE MODEL

To evaluate causes of white flight in terms of the hypotheses raised, we employ a general model of intra-urban residential mobility which we have used elsewhere (Frey, 1976; 1977). The model is based on the assumption that individual movement can be viewed as the outcome of two distinct stages: (1) the decision to move and (2) the choice of destination. Although more elaborate conceptions of the residential mobility process have been advanced (Brown and Moore, 1970; Speare et al., 1975), this decomposition into two separate stages has been an effective analytic device in a national study of moving behavior which found that different sets of explanatory factors can be related to each stage (Butler et al., 1969). Moreover, the two-stage analysis is superior to one which treats mobility from an origin to a destination as a single event since the former allows identification of causal factors at each stage and permits the researcher to analytically separate "pushes" from "pulls."

The aggregate-level counterpart to the individual two-stage mobility model suggests: first, that within a geographically limited population (e.g., central city), a pool of movers will evolve in the course of a time interval; and second, that some proportion of these movers will select a destination outside the geographically limited area (e.g., suburb destination). It is possible, therefore, for different community-level factors to be associated with the size of the mover pool--or the incidence of mobility among residents in the community--than are associated with the propensity of movers to select a destination outside the community. This distinction is important for testing our second

hypothesis that racial factors will be less apt to motivate mobility per se than influence the selection of suburban destinations for central city whites.

In this study, we utilize data from the 1970 Census Subject Report, Mobility in Metropolitan Areas (U.S. Bureau of the Census, 1973a) for white (nonblack) residents in each of thirty-nine large SMSAs (Standard Metropolitan Statistical Areas) who (1) resided in the central cities of those SMSAs in 1965 and (2) resided anywhere in the same SMSA in 1970.[7] The Census report allows us to identify for each SMSA, both stages in the 1965 to 70 city-to-suburb mobility stream which we define, respectively, in terms of component rates:

$$\text{Mobility Incidence Rate (MI)} = \frac{\text{(1965 city residents who moved residentially 1965-70)}}{\text{(1965 city residents)}}$$

$$\text{Suburban Propensity Rate (SP)} = \frac{\text{(1965-70 city-to-suburb movers)}}{\text{(1965 city residents who moved residentially 1965-70)}}$$

Since we define

$$\text{City-to-Suburb Mobility Rate (CSM)} = \frac{\text{(1965-70 city-to-suburb movers)}}{\text{(1965 city residents)}},$$

the following relationships are evident:

$$\text{CSM} = \text{MI} \times \text{SP}$$

$$\ln \text{CSM} = \ln \text{MI} + \ln \text{SP}$$

As we demonstrate below, the latter additive relationship is useful in attributing causal factors to city-to-suburb mobility through each of the two stages in a path analysis (Duncan, 1971, p. 126).

One further refinement needs to be made in our analytic model: an adjustment for the relative proportion of the SMSA population which resides outside the central city. In our comparisons of MI, SP, and CSM

rates among thirty-nine SMSAs, it should come as no surprise that somewhat of a tautalogical relationship exists between the suburb/SMSA population ratio and the suburban propensity rate of central city movers.[8] This ratio in effect serves as a crude proxy for the proportion of SMSA destination opportunities that exist in the suburbs. Because the purpose of this study is directed to evaluating the relative effects of various social and economic explanations for mobility, it is desirable to control for this relationship. We therefore compute an adjusted suburban propensity rate (SP') which is defined as:

$$SP' = \frac{(SP)}{\frac{\text{(suburb population 1965}}{\text{SMSA population 1965)}}} \times K$$

where K = mean value of the 1965 suburb/SMSA population ratio for the thirty-nine SMSAs.

Finally, since the city-to-suburb mobility rate is defined as the product of the mobility incidence and destination propensity rates, an adjusted city-to-suburb mobility rate (CSM') is computed such that:

$$CSM' = MI \times SP'$$

$$\ln CSM' = \ln MI + \ln SP'$$

Making use of the additive relationship, we have regressed the natural log of the adjusted city-to-suburb mobility rate on its two component states for the thirty-nine SMSAs in the sample and have obtained the following standardized regression coefficients:

$$\ln CSM' = +.343 \ln MI + .741 \ln SP' \qquad (1)$$

The R^2 for the regression is 1.00 because, of course, the relation is completely determined. Of greater substantive interest is the much larger coefficient associated with the suburban propensity stage of the

mobility process than that associated with mobility incidence. This finding is consistent with our second hypothesis since it assumes that factors which determine whether or not a move will take place tend to be fairly uniform across communities, whereas those city-specific factors which tend to exert the greatest influence on overall city-to-suburb movement primarily affect the destination selection stage of the process. This assertion, as well as our first hypothesis regarding the relative effects of racial and nonracial causes, is tested below.

The strategy will be, first, to assess separately the causes of mobility incidence and suburban propensity, and second, to relate them to city-to-suburb mobility through the use of a path model. Before proceeding with the analysis, we shall define and present a brief rationale for each racial and nonracial causal factor to be evaluated.

Racial Causal Factors

The three racial factors that will be assessed are: (1) percent of the central city population which is black; (2) a dummy variable indicating that central city schools have undergone significant desegregation; and (3) prevalence of racial disturbances in the late 1960s. The first of these variables measures the racial composition of the central city and represents the relative degree of black contact that central city whites experience.[9] As we discussed earlier, research on neighborhood racial transition in the 1950s as well as the prevailing conventional wisdom suggest a positive relationship between percent city black and white flight.

In addition to the city's black composition, we consider two racial factors which emerged in the late 1960s and may be related to the current out-movement of whites. Each is also relevant to recent public policy debates. The importance of desegregation in the public schools for white flight from the central city is suggested in the study by Coleman et al. (1975). The results of that study suggest that white school enrollment losses have been associated with school desegregation over the period from 1968 to 73 for selected central city school districts. Other studies using similar data but for different universes of pupils and districts reveal findings to the contrary (see Pettigrew and Green, 1976a). To the extent that desegregation induced white enrollment losses are reflected in selective city-to-suburb residential movement, a positive relationship is expected between the dummy school desegregation variable and white flight.

The final racial factor measures the prevalence of racial disorders in a city during the late 1960s. Although scattered racial riots and disorders have occurred in earlier periods, the Kerner Commission has chosen to view these disorders from a national perspective, attributing a number of contributing ingredients to a more pervasive "white racism" which has been developing in our cities since the end of World War II. Spilerman tested a range of hypotheses in an attempt to account for the location of racial disorders and concluded that the latter were "responses to frustrations which are uniformly felt by Negroes, irrespective of their community situations" (Spilerman, 1970, p. 627). Although an explanation of the riots does not seem to lie with community-specific causes, riot-prone communities have experienced negative effects

including: recurring disorders, increased distrust between blacks and whites, less interracial communication and the growth of white segregationist or black separatist groups (National Advisory Commission on Civil Disorders, 1968, p. 151). Increased suburbanward flight may represent another response to the prevalence of racial disorders in a city. Such a response would be significant for future movement patterns in ghetto-ridden cities since according to the Kerner Commission, a possible consequence of accelerating aid programs to urban ghettos may be short term increases in disorder activity resulting from the unfulfilled expectations of program recipients.

Definitions and data sources for the racial causal factors are as follows:

Percent City Black (BLK): Percent of total 1965 population which was black.
Source: U.S. Bureau of the Census, 1973b (1965 totals were averaged from 1960 and 1970 totals).

School Desegregation (DSG): Dummy variable based on a 1968-72 increase in the index of dissimilarity computed in both years for black and nonblack elementary school students across schools within the central city district. 1 = an increase of 10 or more on the index; 0 = an increase of less than 10 or decrease on the index.
Source: U.S. Office of Civil Rights, 1970, 1974.[10]

Incidence of Racial Disturbances (DST): The number of spontaneous outbreaks characterized primarily by Negro aggression which took place in the city between 1965-68, per 100,000 central city population, 1965.
Source: Lemberg Center for the Study of Violence, 1968a, 1968b; Congressional Quarterly Service, 1967; The New York Times Index.[11]

Nonracial Causal Factors

The seven nonracial causal factors considered here fall into three general categories which represent (1) the relative decline of the

central city in relation to the broader metropolitan area; (2) the recency of suburban development; and (3) compositional attributes of the central city which affect overall mobility incidence levels.

Although the overall decline of the central city relative to its suburbs can be translated into a number of social and economic dimensions, we concentrate here on four variables which previous research suggests may directly increase white out-movement from the city. Two of these--the suburb/city ratio of taxes per capita and the suburb/city ratio of education expenditures per capita--are fiscal considerations which potential movers can assess in dollars-and-cents terms. Since metropolitan areas differ in the degree to which local sources contribute to overall revenue and expenditures levels, our measures include total tax and education expenditures attributable to local and nonlocal levels, in order to facilitate cross-metropolitan comparisons. As noted in the earlier discussion, tax rates per capita are generally higher in the central city. Among the thirty-nine metropolitan areas in the study, thirty-six have suburb/city tax ratios which are less than 1.00. A negative relationship is therefore expected between this ratio and central city flight.

The quality of a community's school system provides a particular attraction for households with children. According to the Butler et al. (1969) residential preference survey, 78 percent of all respondents favored an above average school system with higher than average taxes as opposed to below average schools with lower taxes. The importance of this factor for local mobility dynamics is suggested in Long's (1972) analysis which demonstrates that of all families with children, mobility

rates are highest among those whose children have not yet reached school age. In this study we use a ratio of per capita education expenditures in order to measure the relative qualities of suburb versus city school systems.[12] Although states differ in the ways educational expenditures are allocated among communities, suburbs generally have more favorable tax bases and can funnel more of their revenues into education than can central cities. A positive relationship is expected between the suburb/city per capita education expense ratio and white out-movement from the city.

The level of crime in the urban core represents another potential impetus for out-movement from declining central cities. Due to past suburbanization and fixed political boundaries, these cities house disproportionate numbers of those subgroups subject to high arrest and victimization rates (President's Commission on Law Enforcement and Administration of Justice, 1967). Moreover, there exists a positive relationship between the crime rate of the central city and the size of its suburban population.[13] Despite the commonly held view which suggests that an increased perception of crime will lead to further flight of city residents, at least two studies have suggested the contrary (Droettboom et al., 1971; Guterbock, 1976). In particular, the Droettboom et al. findings show that moves associated with the perception of crime are undertaken to a greater extent by low income individuals and are more likely to result in a within-city relocation rather than a suburban destination. The commonly held view will be tested again here with a positive relationship expected between the central city crime rate and white suburbanward movement.

One further element of central city decline that may affect white flight relates to the suburban relocation and expansion of employment opportunities. As mentioned above, the recent employment dispersal has been selective of blue collar jobs and should disproportionately affect central city residents. To the extent that affected workers are unable to locate alternative city jobs, two responses (in addition to unemployment) are possible: increasing rates of "reverse" city-to-suburb commuting and increasing rates of city-to-suburb residential mobility. Aggregate work-residence patterns for the decade from 1960 to 70 suggest that both responses were prevalent for central city whites during the period (Guest, 1975a; Kasarda, 1976). However, the residential mobility literature provides mixed evidence regarding the immediate impact of employment relocation on local mobility decisions (Goldstein and Mayer, 1964; Lansing et al., 1964; Guest, 1975b). In this study we shall use the percent of city workers who commute to the suburbs as a proxy for recent job decentralization and examine its posited direct relationship with white movement to the suburbs.

The four causal factors just presented have been advanced as mobility determinants in those declining central cities which have become a major focus in the recent discussions of urban policy analysts (Sternlieb and Hughes, 1975; Gorham and Glazer, 1976). These can generally be characterized as older cities with high population densities, disproportionately located in the Northeast or North Central regions, stagnating in economic growth, decentralizing in population since early in the century and undergoing actual central city population losses since 1950. In contrast to these, there exists a number of more

recently developed, low density, growing metropolitan areas. These are located largely in the West and South, and by virtue of their later development and ability to annex territory to the political city boundaries, have managed to lower both population composition and fiscal disparities between their central cities and suburbs (Schnore and Winsborough, 1972; Guest, 1972; Kaufman and Schnore, 1975; Petersen, 1976). The high level of suburban growth displayed by these areas in the post-1950 period more accurately approximates the natural expansion at the city periphery which the now declining areas experienced decades ago. Although the present study is directed toward identifying mobility determinants in declining cities, it is necessary to include a "control" for the mobility patterns of newly developing metropolitan areas in the analysis that follows. We label this additional nonracial factor, postwar suburban development, and operationalize it as the percentage of suburban dwelling units which have been built since 1950.

Finally, we consider two compositional attributes of central cities which we expect to account for most of the variation across cities in the mobility incidence component of our model. These are: (1) percent of white city residents in highly mobile age groups and (2) the proportion of owned homes in the central city. The relationship of residential mobility incidence to both age and housing tenure is well documented for individual households (Speare, 1970; Goodman, 1974). It is anticipated, therefore, that the size of a central city's mover pool will be dependent on its age and housing composition.

Definitions and data sources for the nonracial causal factors are as follows:[14]

Suburb/City Educational Expenditures Per Capita (EDX): Ratio of 1970 Suburban Educational Expenditures Per Capita to 1970 Central City Educational Expenditures Per Capita.
Source: Advisory Commission on Intergovernmental Relations, 1973, Appendix B.

Suburb/City Tax Revenues Per Capita (TAX): Ratio of 1970 Suburban Tax Revenues Per Capita to 1970 Central City Tax Revenues Per Capita.
Source: Advisory Commission on Intergovernmental Relations, 1973, Appendix B.

Crime Rate (CRM): Number of Serious Crimes reported in 1970 per 1000 central city population, 1970. Serious crimes include murder, rape, robbery, aggravated assault, burglary, larceny and auto theft.
Source: U.S. Bureau of the Census, 1973b.

Postwar Suburban Development (PSD): Percent of 1970 suburban year-round units in structures built since 1950.
Source: U.S. Bureau of the Census, 1973b.

City-Suburb Commuters (CMT): Percent of 1970 central city residents reporting a place or work, that report a suburban workplace.
Source: U.S. Bureau of the Census, 1973c.

Percent City Owners (OWN): Percent of 1970 nonblack-occupied dwelling units in the central city which are owner occupied.
Source: U.S. Bureau of the Census, 1971.

City Age Distribution (AGE): Percent of the 1970 nonblack central city population over age 5 which was in the 20-29 year old age group in 1965.
Source: U.S. Bureau of the Census, 1973a.

Causal Factors and White Flight

To follow the analysis strategy outlined earlier, we shall first perform separate regressions of mobility incidence and suburban propensity, respectively, on various causal factors. The regression equation for mobility incidence on all of the factors yields the following standardized regression coefficients:

$$\ln MI = + .072\ BLK + .028\ DSG + .018\ DST - .048\ EDX - .244\ TAX + .046\ CRM + .595\ PSD + .395\ CMT - .268\ OWN + .164\ AGE \qquad (2)$$

with $R^2 = .61$.

These findings do not support our contention that the homeownership and age compositions of central cities account for the bulk of variation in cities' levels of mobility incidence for whites since sizable coefficients are also displayed for postwar suburban development, the degree of reverse commuting and the relative tax burden on city residents. It is likely that the large (.595) coefficient associated with the former variable reflects not only the attractiveness of new suburban housing as a mobility stimulus, but other structural characteristics related to metropolitan areas with newly developed suburbs as well. If we interpret this factor as an ecological variable, it may be possible to understand its high relationship to mobility incidence since central cities in newer, growing metropolitan areas are more likely to be composed of families, residential neighborhoods and other "suburban" attributes than are central cities in older areas.

One expectation is borne out by the results in equation (2), namely, the inability of racial factors to account for the mobility incidence of central city whites. This finding seems to discount the characterization of white city-to-suburb movement as racially induced "flight."

We turn now to an analysis of the causes of suburban propensity. In the equation below, suburban propensity is regressed on each of the causal factors with the exceptions of homeownership and age distribution. The latter are omitted because we advanced no specific hypotheses about

their relationships to suburban propensity. The standardized regression coefficients for the equation are as follows:

$$\ln SP' = +.381\,BLK + .020\,DSG + .089\,DST + .292\,EDX - .295\,TAX + .112\,CRM + .536\,PSD + .232\,CMT \qquad (3)$$

with $R^2 = .63$.

An examination of the coefficients reveals that metropolitan areas with recently developed suburbs have high levels of white suburban propensity in addition to their high levels of mobility incidence noted above. Next in importance is the percentage of blacks in the central city followed by both fiscal variables and the level of reverse commuting. These results do not permit us to dismiss the influence of race on the suburban destination choices of white city movers. Yet they indicate that competing nonracial economic and ecological explanations of white suburbanward mobility prove to be at least as important as racial explanations.

A more precise view of the relationships between various causal factors, on the one hand, and city-to-suburb movement, on the other, can be gained by relating the standardized regression coefficients in equations (1), (2) and (3) through a path model. Although we do not present an actual diagram, the model can be conceptualized by considering ln CSM' in equation (1) as the dependent variable, determined directly by ln MI and ln SP'. The causal factors BLK, DSG, DST, EDX, TAX, CRM, PSD, CMT, OWN, and AGE become the independent variables in the model and their relationships to ln CMS' are directed through ln MI and ln SP' in equations (2) and (3). Because ln CMS' is completely determined by the two intermediate variables, no direct relationships will exist between the causal factors and ln CMS', or in other words, our model

forces all relationships between the causal factors and city-to-suburb mobility to operate through mobility incidence and/or destination propensity. In treating the equations as part of a path model, it is possible to compute a "total effect" value for each causal factor indicating its relationship with city-to-suburb mobility. Furthermore, each total effect can be decomposed into that directed through mobility incidence and that directed through suburban propensity (see Alwin and Hauser, 1975). These effects have been computed and are presented in Table 1.

We can now return to the hypotheses raised at the outset. Our first expectation was concerned with the relative importance of competing racial and nonracial explanations for the city-to-suburb movement of whites. It has been our contention that nonracial factors would predominate in the explanation. The total effect column in Table 1 provides partial support for this assertion. The largest total effect can be attributed to the factor, postwar suburban development, which we have interpreted as an ecological factor characteristic of newer, growing cities. However, heavy out-movement in these areas is generally matched by a substantial in-movement, so that the large white flight attributed to this factor may be less disastrous to affected central cities than these data seem to suggest. Among the remaining factors which have more direct policy implications for declining areas, it is evident that percent city black contributes significantly to white flight. Its effect, however, is matched in magnitude by both the suburb/city tax differential and the degree to which reverse commuting takes place--our proxy measure for the suburbanization of employment.

In the second hypothesis, we expected that racial factors--to the extent that they influence city-to-suburb mobility--would operate primarily

Table 1

Decomposition of Effects for Causal Factors on City-to-Suburb Mobility through Mobility Incidence and Suburban Propensity*
(Based on equations (1) (2) and (3) in text)

Causal Factors	Effects Through Incidence	Effects Through Propensity	Total
Percent City Black	.024	.282	.306
School Desegregation	.009	.015	.024
Racial Disturbances	.006	.066	.072
Suburb/City Ed Exp	-.016	.216	.200
Suburb/City Taxes	-.083	-.219	-.302
Crime Rate	.019	.083	.102
Postwar Suburb Devlp.	.204	.397	.601
City-Suburb Commuters	.135	.172	.307
Percent City Owners	-.092	.000	-.092
City Age Distribution	.056	.000	.056

*City-to-Suburb Mobility, Mobility Incidence and Suburban Propensity refer, respectively, to the natural logs of the Adjusted City-to-Suburb Mobility Rate, the Mobility Incidence Rate and the Adjusted Suburban Propensity Rate as defined in the text.

through the destination selection process of movers. The first two columns in Table 1 show this clearly to be the case not only for the racial factors we considered but also for the remainder of the variables that were causally linked to both mobility incidence and suburban propensity. Furthermore, of all the effects directed through mobility incidence, the smallest are displayed for the three racial factors and the crime rate.

3. SOUTHERN REGION AND WHITE FLIGHT

In the recent debate over white flight precipitants, a question has been raised regarding the degree to which racial factors influence white city-to-suburb movement in Southern as opposed to nonSouthern cities. Critics of those analyses which indicate a relationship between the racial desegregation of city schools and white school enrollment loss point out that such findings are based largely on the experiences of Southern cities, many of which had undergone widespread residential suburbanization of whites in the 1960s before the onset of school desegregation (Farley, 1976a; Pettigrew and Green, 1976a). It is possible, therefore, that the white enrollment loss in these areas may represent a continuation of the residential suburbanization process rather than be a direct result of school desegregation. The data at our disposal do not allow us to evaluate the causes of white school enrollment loss, however, answers to the following questions regarding residential white flight may add some insights: (1) To what extent are large Southern cities experiencing a greater city-to-suburb movement than those outside the South?; and (2) To what extent is this movement accounted for by racial versus nonracial factors?[15]

To answer these questions, we extend the causal structure of our path model to include two new independent variables, Southern region and city age. Southern region, the variable of major interest, is a dummy variable for which a value of 1.0 is assigned to all cities in the Southern region as defined by the Census Bureau. A value of 0.0 is assigned to all other cities. City age is included as a control variable in the analysis since its relationship to population decentralization is well documented (Schnore, 1965) and is defined as the number of years between the census year the city first attained a population of 50,000 and the year 1970. Because Southern cities are younger than nonSouthern cities, the inclusion of city age in the analysis will provide a more accurate assessment of Southern region effects on the variables of interest.

As seen in Figure 1, the causal factors which served as independent variables in the previous model now become the first set of intermediate variables, while the factors of mobility incidence and destination propensity serve again as intermediate variables to ln CSM'. Although the model was originally set up to include all of the causal factors, those paths with standardized regression coefficients of less than .10 were deleted, and the model was recomputed. In the process, two factors, school desegregation and city age distribution, were completely eliminated from the model.

Although we shall not dwell on the magnitudes of the many paths in the model, two observations are worth noting. First, there is a moderately large (.235) direct relationship between Southern region and suburban propensity which is not directed through the causal factors. This suggests that attributes leading to the suburban selectivity of central city whites

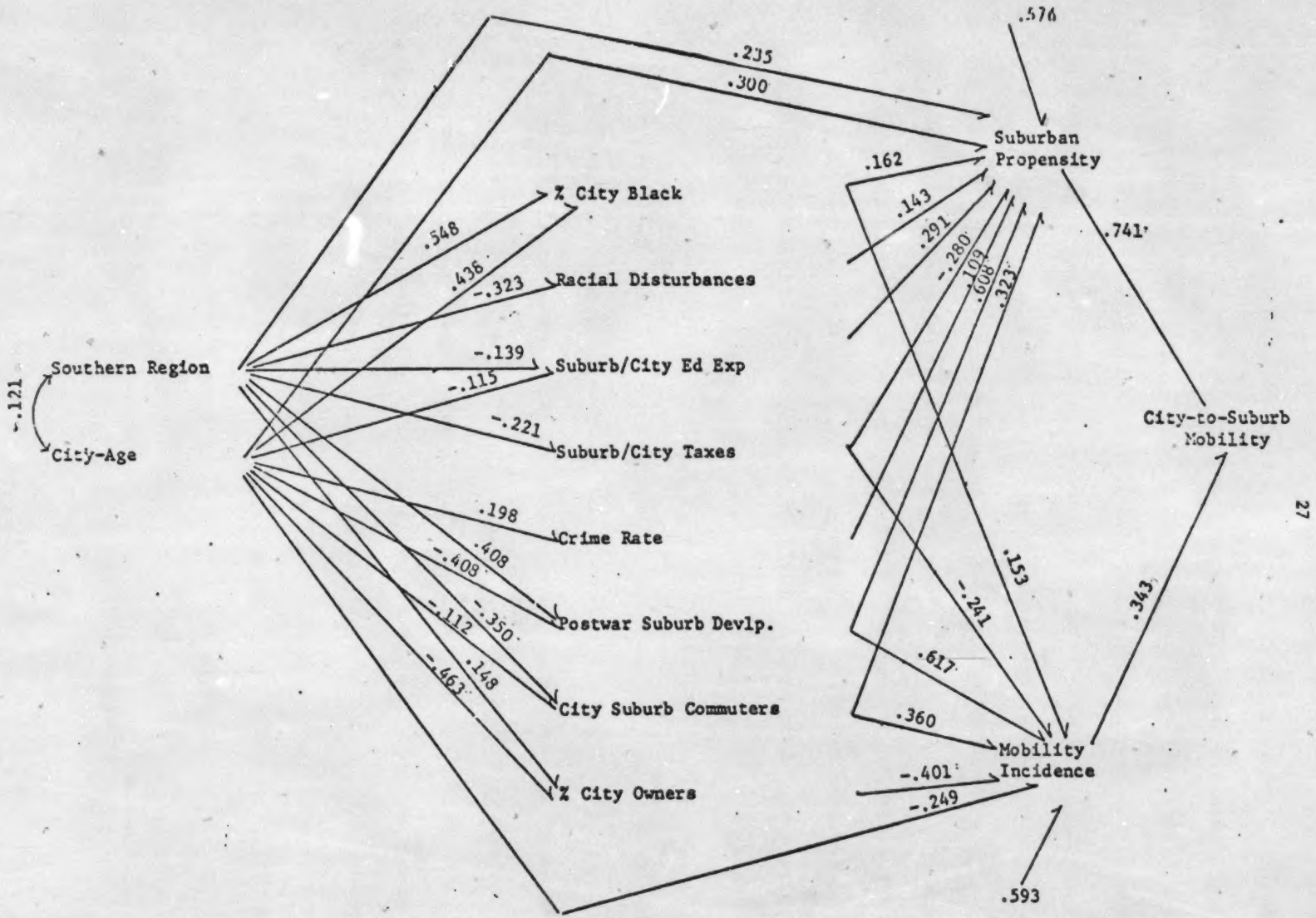

Figure 1 Path Diagram Relating Southern Region and City Age to City-to-Suburb Mobility through Mobility Incidence, Suburban Propensity and Causal Factors.

in the South exist which are not considered in our model. Second, the impact of the factor percent city black on suburban propensity is significantly diminished when Southern region and city age are included in the model (.162 in Figure 1 versus .381 in equation (3)). A more intensive examination of this difference reveals that percent city black is more relevant to the explanation of suburban propensity in nonSouthern cities.[16]

In order to answer the questions raised above, we shall again use the decomposition of effects technique, this time focusing on the total and decomposed effects for the Southern region on city-to-suburb mobility. These effects are presented in Table 2. The substantial total effect of .392 provides an answer to the first question, indicating that large Southern cities do indeed exhibit a higher level of white city-to-suburb movement than nonSouthern cities, when city age is taken into account.

The decomposition of effects in the third column of Table 2 allows us to answer the second question regarding racial and nonracial aspects of Southern city-to-suburb movement. As was already noted, a substantial degree of the explanation is not accounted for by the causal factors we examined (.174 of the total .392 effect). The portion of the total effect that is accounted for by the variables in our model is most influenced by the factor, postwar suburban development. In contrast, the racial variable, percent city black, accounts for considerably less of the explanation while racial disturbances (or lack of them, since racial disturbances were less prominent in Southern cities than in the North) operates to decrease white suburbanward movement in the South. We conclude from these findings that racial factors have little to do with high levels of white city-to-suburb movement in Southern cities. This, of course,

Table 2

Decomposition of Effects for Southern Region on City-to-Suburb Mobility through Mobility Incidence, Suburban Propensity and Causal Factors
(Based on Path Diagram in Figure 2)

Through/ Not Through Causal Factors	Southern Region Effects		
	Through Incidence	Through Propensity	Total
Through Causal Factors	.070	.148	.218
Percent City Black	.029	.066	.095
Racial Disturbances	.000	-.034	-.034
Suburb/City Ed Exp	.000	-.030	-.030
Suburb/City Taxes	.018	.046	.064
Crime Rate	.000	.000	.000
Postwar Suburb Devlp.	.086	.184	.270
City-Suburb Commuters	-.043	-.084	-.127
Percent City Owners	-.020	.000	-.020
Not through Causal Factors	.000	.174	.174
Total	.070	.322	.392

assumes that those effects which operate outside the causal factors in our model are unrelated to race. The results here also suggest that studies directed toward evaluating causes of white school enrollment loss in Southern cities would do well to consider recent residential suburbanization trends in their analyses.

4. CONCLUSION

We began this investigation by advancing two hypotheses that are relevant to understanding both why and how recent city-to-suburb movements of whites in large metropolitan areas have taken place. In the first, or "why" hypothesis, we predicted that racially-linked city attributes such as residential racial composition, the incidence of racial disorders or an increase in school desegregation would be less likely to affect the out-movement of whites than attributes which reflect the social and economic decline in the central city relative to the suburbs. Our findings do not allow us to discount the racial composition of the central city as a predisposing factor toward white suburbanward movement. Nevertheless, we find the mobility of whites to be just as responsive to city-suburb fiscal disparities - particularly relative tax levels, and also to the degree to which employment has suburbanized. The data also show a substantially greater out-movement of whites from those metropolitan areas where there has been considerable postwar suburban development. These, however, are usually newer and more rapidly growing areas with large counterstream movements into the city that tend to balance out the central city flight.

In the second, or "how" hypothesis, it was anticipated that racial influences on white city-to-suburb mobility would operate primarily through the selective destination choices of movers rather than through their decisions to move. Our data strongly supported this expectation for both racial and nonracial causes. This insight into the dynamics of intraurban mobility portends some short term optimism for the plight of the declining central city. It suggests that deteriorating economic and social conditions in the core will not precipitate a wholesale evacuation of current residents but will primarily affect the destination selections of the continually-present mover pool which comprises a fairly constant proportion of the total population of cities. To the extent that racial factors proved to be negligible in explaining the incidence of mobility across SMSAs, we conclude that the term "white flight" is an inappropriate description of the suburbanward movement of city whites.

This study was motivated by recent debates over "white flight" impacts of such proposed policies as ghetto enrichment programs for inner city minorities and central city school desegregation. We hoped to clarify the role of racial factors involved in this movement. Although our first hypothesis was not entirely confirmed, the findings here do not support the view stating that increases in the numbers or levels of integration of central city blacks will have a substantial effect on white out-movement. The increasing disparity between cities and their suburbs in services offered and taxes levied is likely to become even more important in the future mobility decisions of central city residents,

blacks and whites alike, than was shown during the 1965 to 70 period. Furthermore, any suggestion that induced "flight" will be an immediate consequence of the types of policies discussed is not given support in this study.

Although a positive implication of this investigation suggests that programs aimed at achieving higher standards of living and better schooling for central city minorities might be implemented without precipitating additional white population losses, we have uncovered no easy remedies toward decreasing the level of white out-movement which is presently taking place. The fiscal crisis in big city government as well as the suburbanization of employment opportunities and residences is likely to continue, particularly in the already declining central cities of our older metropolitan areas. There may be some truth to Gorham and Glazer's less than optimistic prognosis that:

> The declining cities are going through a period of urban natural selection. The most likely outcome: some will pull out, stabilize and even revitalize; others will continue to weaken and eventually stabilize at a much lower level of activity (Gorham and Glazer, 1976, p. 28).

Given this situation, central cities will be forced to look beyond their own political boundaries to obtain the resources necessary to increase their attractiveness to residents and industry.

Appendix Table 1

Zero-Order Correlations among Causal Factors, 39 SMSAs

		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1.	Percent City Black	1.00									
2.	School Desegregation	.034	1.00								
3.	Racial Disturbances	-.099	-.054	1.00							
4.	Suburb/City Ed Exp	-.296	-.086	-.023	1.00						
5.	Suburb/City Taxes	-.208	-.308	-.057	.473	1.00					
6.	Crime Rate	.409	.024	.052	-.205	-.249	1.00				
7.	Postwar Suburb Devlp.	.030	.324	-.270	-.016	-.116	.155	1.00			
8.	City-Suburb Commuters	-.011	-.075	.254	-.132	.122	.160	-.135	1.00		
9.	Percent City Owners	-.185	.232	-.290	.168	-.037	-.334	.423	-.109	1.00	
10.	City Age Distribution	-.138	.052	-.299	.073	.259	-.172	.443	-.148	.063	1.00

NOTES

[1]Taeuber (1975, p. 840) compiles a list of racially discriminatory housing activities that have been and continue to be practiced by public and private agencies.

[2]The high degree of metropolitan-wide residential segregation is indicated by 1970 segregation indices computed for central cities of large metropolitan areas and the urbanized areas which include both the central cities and the highly urbanized suburban fringes (Sørensen et al., 1975). In virtually all Northern and most Southern metropolitan areas, residential segregation indices are higher for the total urbanized area than for the central city alone.

[3]The independent effects of community housing variables are indicated in a recent paper by Farley (1976c) which examines school district white elementary student loss resulting from school district factors: change in school segregation and the racial composition of schools; and from community factors: availability of suburban housing and size of the central city. In a cross-sectional analysis of ninety-seven central city school districts, the findings indicate that school racial composition and the two community factors exert significant effects on 1968 to 74 losses in white elementary school enrollment.

[4]Bradford and Kelejian (1973) examined determinants of the city-suburb residential distributions for white families by class across eighty-seven large metropolitan areas in 1960. The findings showed city-suburb rent and fiscal differentials to be important in the explanation for middle and upper class families and showed race to be insignificant.

[5]The expected increase in white city-to-suburb movement is a corallary of the so called "mismatch hypothesis." Put simply, this hypothesis suggests that the increasing suburbanization of blue collar jobs and central city concentration of white collar jobs creates a mismatch between the skill levels of central city residents and available employment opportunities. A major consequence of this process is expected to be increased unemployment for city blacks who are effectively barred from relocating in a suburban residence. For blue collar whites in the city, a suburbanward move becomes an expensive, but viable option. Kasarda's (1976) findings support this differential racial response to blue collar employment suburbanization. (See Harrison, 1974, for a discussion and critique of the mismatch hypothesis.)

[6]Although we are mindful of the fact that population change is the net of various mobility and migration streams in addition to natural increase, the focus here is resticted to residential movement from the central city to suburbs of the same SMSA. The emphasis on this single stream is consistent with policy makers' concerns over further out-movement of existing central city population. Moreover, previous research has demonstrated that city-to-suburb movement has contributed in large measure to the overall central city loss of whites (Taeuber and Taeuber, 1964; Tarver, 1969; Farley, 1976b).

[7]The thirty-nine SMSAs studied are a subset of the sixty-five largest SMSAs in 1970 which had a mononucular city and which were not excluded according to the following criteria: (1) where large proportions of the male labor force are in the armed forces (Washington, DC-Md-Va; San Diego, Calif; San Antonio, Texas; Honolulu, Hawaii); (2) where

sufficient migration or independent variable information was unavailable (Miami, Fla; Salt Lake City, Utah); and (3) where extensive boundary changes took place between 1965 and 70 (Jacksonville, Fla). Although we refer to the white population throughout the text, our data actually pertain to the nonblack population which for most metropolitan areas closely approximates the white population.

It should also be noted that movement streams using these data are based on individuals' actual location of residence in 1970 and reported place of residence in 1965: multiple moves, return moves and misreported places of 1965 residence are not taken into account.

[8]In regressing the natural log of the suburban propensity rate (ln SP) on the 1965 suburb/SMSA population ratio, we obtained a standardized regression coefficient of .745, indicating the strength of this relationship.

[9]In preliminary analyses we included the city racial segregation index (as recorded in Sørensen et al., 1975) in addition to percent city black. Since the former measure did not significantly affect the dependent variables of interest, it was deleted for reasons of parsimony.

[10]The period from 1968 to 72 was chosen as the basis for the dummy variable since reliable school segregation data became available in 1968, and the 1968 to 72 period has been focused upon in previous research (Farley and Taeuber, 1974). It was assumed that suburbanward movement was made in anticipation of widespread school desegregation based on previously announced plans. The author is grateful to Karl and Alma Taeuber for making available the indices which were used in computing this dummy variable.

[11]A description of these data appear in Spilerman (1970). The author is grateful to Seymour Spilerman for making the data available for this analysis.

[12]It has been demonstrated that suburb/city ratios of per pupil education expenditures are generally lower than suburb/city ratios of per capita education expenditures. Although neither measure provides an ideal comparison of educational quality in the suburbs versus the city, the former tends to overstate city school expenditures since a smaller proportion of the city's total population attends public schools (due to private school attendance and the city age distribution), and a disproportionate amount of city expenditures goes into vocational programs and special education for disadvantaged students (Pettengill and Uppal, 1974).

[13]Gibbs and Erickson (1976) suggest that the conventional city crime rate might be misleadingly large since the denominator (city population) does not include potential noncity victims or offenders. We would argue, however, that the conventional rate more accurately reflects the perception of crime for city residents and therefore remains a useful measure for purposes of this study.

[14]Critics may take us to task for basing causal factors on 1970 measures while using then to explain variations in the 1965 to 70 movement patterns. Although this practice introduces a potential simultaneity bias into our findings, we are bound by the constraints of available data. Census data for metropolitan population and housing characteristics are collected at ten year intervals and only the 1970 characteristics are

consistent with city and suburb boundaries to which the mobility data pertain. This consideration also applies to the fiscal variables that are used. Since our objective in this study is directed toward assessing the relative effects of each causal factor on mobility levels rather than toward estimating precise relationships, the bias introduced by timing discrepancies is not likely to affect findings significantly. However to the extent it exists, the simultaneity bias would operate to overestimate the effects of BLK, EDX, TAX, and PSD.

[15]We might note here that there are no clear cut expectations regarding the importance of black city composition in the explanation of Southern white flight. Findings from the Taeubers' (1965) study on postwar neighborhood transition in the South suggest a minimal effect. Unlike neighborhood transition in the North where black expansion took place within previously white neighborhoods, racial compositional change in Southern neighborhoods was due largely to the differential construction of new dwellings built expressly for whites or blacks. This predominant pattern resulted in part from the existence of scattered black enclaves established during the formative stages of Southern city growth, and in part because large portions of unused land were available within city boundaries during the period. These patterns indicate that postwar suburbanization in the South was not linked to a neighborhood racial succession process within the city. During the 1960's, however, Southern metropolitan areas displayed levels of suburbanization experienced by Northern cities in earlier decades. It is conceivable therefore that recent black net-migration increases in Southern cities may have exerted some pressure toward higher levels of out-movement among central city whites.

[16]Using the sample of thirty-nine SMSAs, we regressed suburban propensity on the most important explanatory factors shown in Figure 1, in addition to the interaction of Southern Region x Percent City Black. Our findings yielded the following standardized regression coefficients:

$$\ln SP' = +.475\,SRG - .346\,SxB + .306\,BLK + .169\,DST + .306\,EDX - .290\,TAX + .666\,PSC + .335\,CMT + .321\,CTA$$

where: SRG - Southern Region
SxB - Interaction of SRG and BLK
CTA - City Age
(Other abbreviations are defined in the text.)

It is apparent that the effect of percent city black on suburban propensity operates primarily in nonSouthern cities.

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